

Construction Method Statement for the Installation of the Rear Glazed Extension at 5-6 The Quadrant, Buxton.

Site Planning & Preparation

An initial inspection of the area shall be conducted by a competent surveyor. Its purpose is to predetermine the control points and benchmarks used in locating the grid lines, which will be the basis of the layout plan for all elements of the planar glazing system. The installer will follow the preparation for bracket fixing.

Site survey and marking/lay-out will be done first for anchoring.

Any errors and inconsistencies in benchmark locations, levels, the vertical square of the openings, etc. will be recorded for necessary rectifications.

Start the layout and marking of offsets (set-out lines) for elevations and grid lines, the surveyor will use yellow marking for proper referencing of the glazed wall layout.

The actual dimension of the building's perimeter and floor-to-floor height shall be verified so that the true site conditions will be adopted. Any changes and deviations shall be recorded in the sub-contractor drawings and reflected the fabrication drawings.

Work Methodology

Make sure that the building is sufficiently readied to receive and enable structural steel works to commence.

Organization, Responsibilities & Supervision

The site operation activities and control are executed by the following with their corresponding roles and supervision responsibilities.

The project engineer is responsible for the overall management of work and control of the staff in executing the work and will perform the following functions.

- To act as the main contact for the main contractor I client /consultant
- To ensure the progress of the project to the agreed program
- To coordinate with the design team
- To make decisions for the day to day project activities
- To control the activities of site engineer and site supervisor
- To ensure the implementation of safety regulations

The foreman will be responsible for:

- To supervise day to day progress of work
- To supervise the quality of work
- To ensure the progress and quality of installation
- To supervise the delivery and routing of materials into the building
- To ensure the implementation of safety regulations

The site surveyor will be responsible for:

- Site survey
- Marking of levels
- Establishing control work points

Workforce

Project Engineer-

The overall management of work and control of staff in executing the work is done by the Project Manager. Coordinates and supervises the day-to-day work and ensures the progress and quality of work.

Supervisor/Foreman-

Coordinate and supervises the installation activities.

Glazing fitters-

For fixing structural elements of the planar wall system

For the installation of glass panels

Finishing Workers-

For the application of silicone and for finishing works.

Helpers-

To help in the installation, unloading, and shifting of materials

Health, Safety & Environment

HSE Contractor Requirements

The following HSE requirements are applicable to the Method Statement for Planar Glazing Installation and Risk Assessment.

- General Safe Work Practices
- Housekeeping Requirements
- Emergency Preparedness
- Personal Protective Equipment

Protective & Safety Equipment

The following HSE requirements applicable to the Method Statement for Planar Glazing and Risk Assessment

- Safety Helmet
- Safety Shoes
- Safety Glasses
- Hand Gloves

Information to personnel

Pre-task briefing to be given to the personnel involved in the activity. Supervising staff including Engineers to be made aware of this Method Statement for Planar Glazing by providing an approved copy.

Permit Requirements

All necessary permits are identified in the safety manuals and will be obtained prior to commencement of works

Operational Instruction

Technical Data & Physical Sample

Technical data & physical samples required for this work as per the specification had been submitted to the consultant for approval. Drawings will be made according to the approved structural layout. The fabrication and installation will be done according to the approved drawings.

Based on the design calculation detailed shop drawings showing elevations and sectional details will be prepared. Shop drawings will show details of fabrication and assembly details. Details will show the detailed dimensions and size of sections used and details of material used via the type of material, supplier, and other relevant details. Shop drawings are prepared in AutoCAD. Shop drawings will be forwarded for approval with design calculations and consultants' comments will be reviewed and resubmitted for final approval.

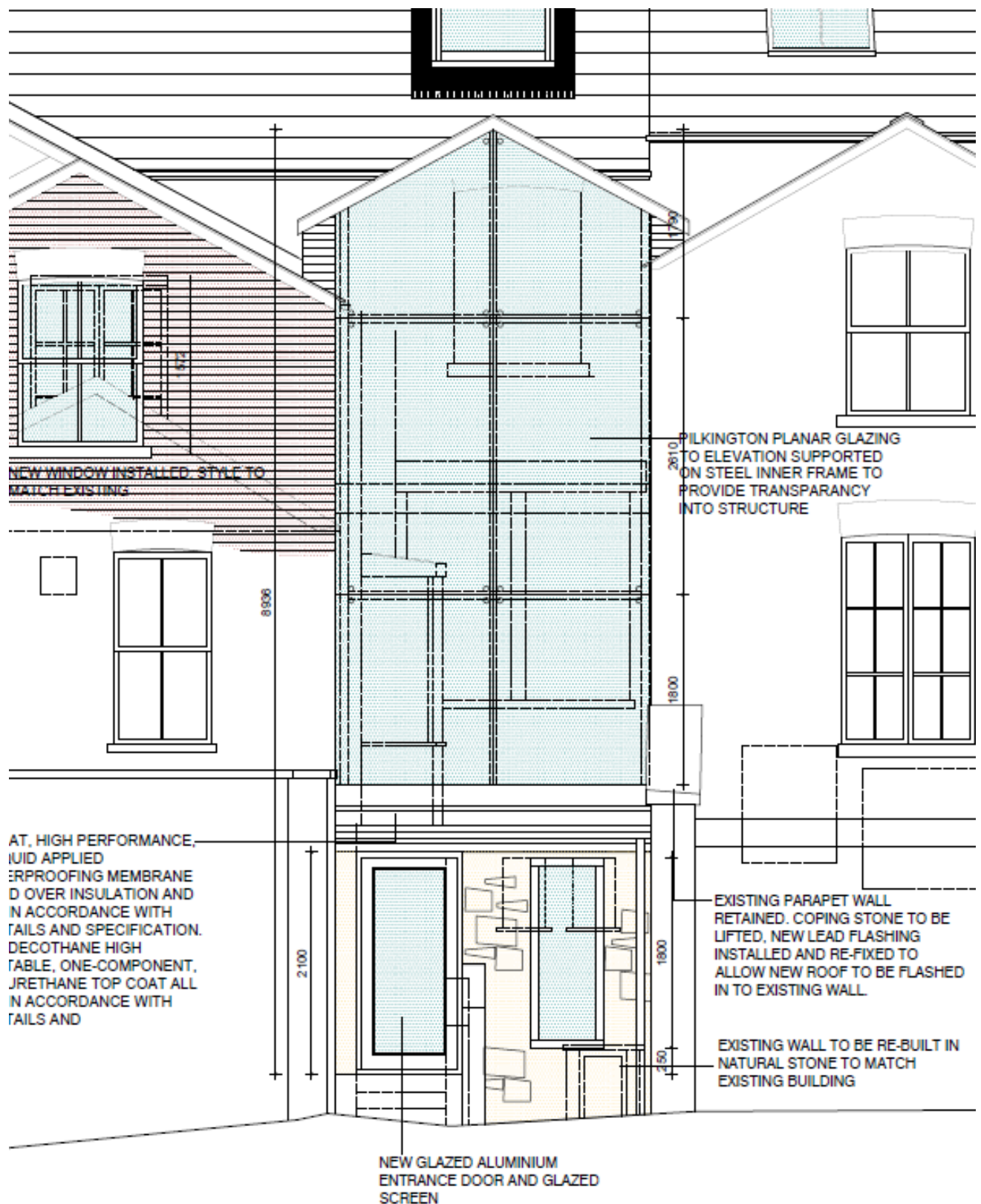
Structural Calculation

The project specifications and drawings are carefully reviewed and based on the design wind load and other structural parameter structural calculations are made and suitable sections for structural brackets and glassworks will be proposed. Brackets, anchors, secondary supports, etc. for the planar glazing will be designed as per specification and the structural calculation and in the line with international and industry norms/standards.

Installation Method-Planar Glass Wall

Glass Protection:

Polyethylene sheets are used to protect the installed glass. This sheet will be removed only at the time of glass cleaning prior to site handover.



Proposed Extension (Not to Scale)

Fabrication

All the fabrication works will be carried out at the factory by trained workers, supervised by experienced technicians, and hence is subject to quality control procedures

Fabrication of Brackets:

The glazing brackets and shoe brackets are designed as per the structural calculation of the walling system. The support brackets are manufactured as per the dimension required for the brackets by using adequate clearance.

The brackets are weld fixed to the structural steel frame prior to installation

Galvanizing is done on the fabricated brackets to prevent corrosion.

Transportation

Once the site conditions enable the start of the installation of the structural frames, the units will be transported to the site and stored in the storage area. All gaskets and accessories are also stored in their original packing thus preventing any damage or scratches.

Site Installation

Prior to installation work, provide the clearances and handover of the areas in writing as required for installation to proceed. example grid lines, floor level, elevation, and fully erected scaffolding with floorboard on all working areas.

All fabricated units are brought and placed at their respective locations manually.

Site survey and marking/lay-out will be done for the first fix/anchoring.

Structural shims are used as a standard way to incrementally position and adjust the structural frame elements to maintain the level and verticality of the brackets.

Separators are used between anchorages & adjacent materials to protect the frame from the stonework. Compressible tape will take up any inconsistencies between the steel frame and the stonework.

The glass support brackets and arm bracket will be fixed in the required area and the structural frame fixed as per the engineers details.

Glass is installed as per the manufacturer's recommendation and the jointing gasket and sealant are installed.

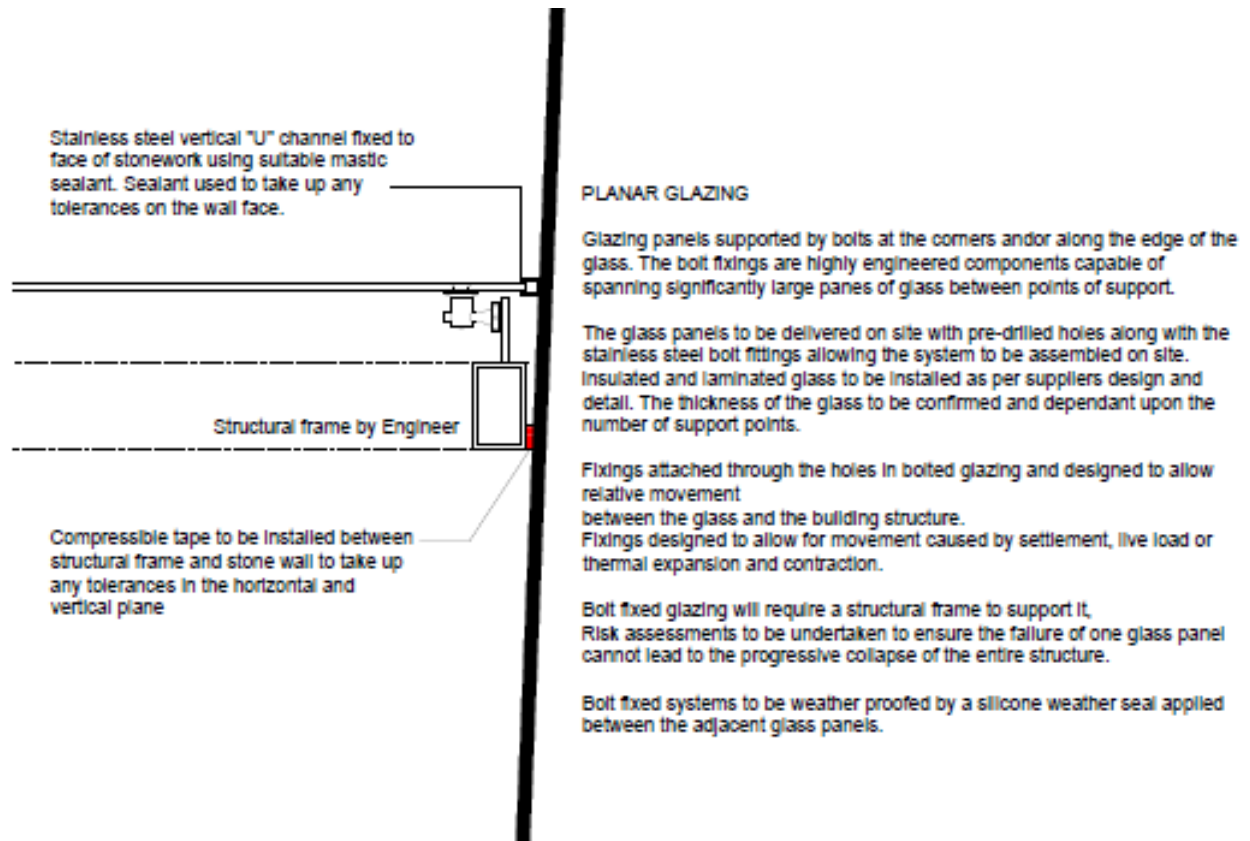
To allow for any inconsistencies and vertical tolerances, a stainless steel "U" channel will be fixed to the vertical edge of the glazing system. This will be fixed to the face of the wall and will take up any inconsistencies between the glazing and the masonry walls. The channel will be mechanically fixed through the base of the channel using appropriate fixings and be mastic sealed to the face of the masonry so that it can be removed with minimal damage to the substrate.

Installations are carried out in conformity with installation and approved shop drawings as per the system supplier's recommendation.

The glass tempered mark will be installed as per project specification. (Tempered mark logo)

Glass installation will be done with manual glass lifting or machine glass lifting. In the case of a glass lifting machine, provide a crane to hook the glass lift during the glass installation work.

Suction pads and hand gloves are used for glass installation.



Typical Junction Detail (Not to Scale)

Roof Installation

The existing roof finish to the outriggers will be stripped back and the walls built up to the required height. A new cavity tray will be installed to provide the required weather protection to the new extension. The existing roof covering will then be re-installed with new lead flashings linking with the new cavity tray.

The roof beams will span across the two outriggers and of a size that can be handled manually into position.

Timber rafters installed as per structural details and insulation installed between and beneath the rafters as per agreed specification.

Roof to be finished with natural slates to match existing roof.

All roof trims to be aluminium, colour dark grey.

Confirmation of Instructions to Operatives Form

The personnel involved in the project confirm the receipt of the Method Statement and had the contents explained and are aware of the HSE requirements.

Cleaning & Handover

The polyethylene sheet will be removed from the installed glass before cleaning of glass. The final cleaning will be done prior to progressive joint inspection with the consultant on an area-by-area basis.

Protection of the installed units will be maintained until the acceptance of the handover certificate of the project.

Inspection & Testing

Quality control is a primary concern in the installation of planar glass walls. Quality Control and quality assurance are strictly monitored during every stage of production from procurement of materials to the final finished product.

Qualified and experienced inspectors in the factory carry out routine and spot checks to assure a good quality product. The quality control and assurance procedure are based on the requirements of ISO 9001:2015.

When the production team supervisor considers that the work will be ready to be inspected, he informs the foreman of the coordination team. The work coordination team foreman then comes to control the works on-site and reviews all the items mentioned in the Inspection and Test Plan (ITP).

At this point, if the coordination team supervisor discovers any defects, he requests the production team to correct them. As soon as he ensured that the work is satisfactory, he fills an Inspection Request form (INR) and gives it to the project team as per standard instruction mentioned on the INR.

The project engineer organizes his team so that the inspection is carried out on the next day and assigns the foreman to carry out the inspection. If necessary, the project engineer highlights the sensitive points of the inspection to his foreman before the inspection. In case of necessity, the inspection may be done the same day.

The project engineer/ foreman checks that all the reference documents are correct and that the quality criteria are properly defined. He then transmits the original INR to the supervision consultant/ main contractor for information on the inspection details (works, date, and time of inspections which could be carried out).

The supervision consultant signs the "receipt", keeps the original and gives back a copy to the main contractor's Quality Department.

The inspection on site is implemented by Construction Department as scheduled in INR with the site engineer and one supervisor of the supervision consultant/ main contractor if required.

At the end of the inspections, the foreman checks that all the persons concerned have signed the Inspection Checklist (IC), and prepares the report of inspection contained INR, IC, Delivery Note. Once the inspection has been completed. The foreman forwards to the Engineer the report to review. The Engineer consultant keeps the copy and gives back the original with

comments if necessary to the main contractor Quality Department. The project engineer shall ensure that all the comments have been taken into account.

Follow up & Evaluation

Performance of the work is followed up by QA audit and Project Management/Consultant review.

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